ORIGINAL

BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use	)	ET Docket No. 94-32

To: The Commission

COMMENTS OF THE AMERICAN PETROLEUM INSTITUTE

AMERICAN PETROLEUM INSTITUTE

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SUMMARY

The American Petroleum Institute ("API") finds that the 50 MHz of spectrum proffered by the Federal Government through the National Telecommunications and Information Administration ("NTIA") is less than ideal for many of the needs of private users. However, due to private users' extreme need for additional spectrum and the fact that the Federal Communications Commission ("FCC") is required by Congress to consider the best application for the spectrum, API has provided constructive suggestions for the most efficient usage of the 50 MHz.

First, however, API must reiterate its concern with the FCC's lack of response to its repeated requests for an Emergency Response Allocation for use by the nation's petroleum, manufacturing, utility, chemical, forestry and railroad industries. Such an allocation is vital and necessary to meet public safety concerns. Unfortunately, the 50 MHz of spectrum designated by NTIA for immediate reallocation is not suitable for a nationwide Emergency Response Allocation due to technical incompatibility. This pitfall, however, should not deter the FCC from actively and swiftly designating spectrum for emergency response communications.

Second, as a member of the Coalition of Private Users of Emerging Multimedia Technologies ("COPE"), API supports the need for the development of an "Advanced Private Land Mobile Communications Service" with a spectrum allocation of 75 MHz from bands below 3 GHz. COPE's requested spectrum allocation would be used to meet the Commission's economic and technology development goals by greatly assisting in the development, use, and eventual mass marketing of devices such as advanced wireless imaging and decision processing/remote file access systems. While the 50 MHz designated for immediate reallocation does not precisely meet COPE's requirements, those requirements could be partially satisfied by an allocation for an "Advanced Private Land Mobile Communications Service" in the 2390-2400 MHz band, and perhaps the 2402-2417 MHz.

Finally, oil and gas industry licensees continue to seek alternatives for establishing vital fixed communications systems to replace the 1.8 GHz systems lost in the spectrum reallocation made for the Personal Communications Services ("PCS"). While accommodations were made for replacement spectrum in the Commission's Docket No. 92-9 proceeding, none offer the favorable propagation characteristics available in the 2 GHz range.

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1. The American Petroleum Institute ("API"), by its attorneys, hereby respectfully submits these Comments in response to the Notice of Inquiry ("NOI") adopted by the Federal Communications Commission ("FCC or Commission") on April 20, 1994, in the above-styled proceeding.1/

I. PRELIMINARY STATEMENT

2. API is a national trade association representing approximately 300 companies involved in all phases of the petroleum and natural gas industries, including exploration, production, refining, marketing, and transportation of petroleum, petroleum products and natural gas. Among its many activities, API acts on behalf of its members as spokesperson before federal and state regulatory agencies.

1/ 59 Fed. Reg. 25589 (May 17, 1994).

The API Telecommunications Committee is one of the standing committees of the organization's Information Systems Committee. The Telecommunications Committee evaluates and develops responses to state and federal proposals affecting telecommunications facilities used in the oil and gas industries.

3. The purpose of the NOI is to ascertain the most appropriate use for 50 MHz of spectrum being transferred from Federal Government use to private sector use in accordance with a mandate of the Omnibus Reconciliation Act of 1993.2/ Under the Reconciliation Act, by February 10, 1995, the Commission is required to allocate, and propose regulations to assign, the 50 MHz. The Commission has said that its goal is to ensure that the reallocated spectrum is used to promote new and enhanced communications services; stimulate economic growth; create new jobs; and aid the development of the National Information Infrastructure ("NII") by extending access to communications among schools,

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2/ Omnibus Reconciliation Act of 1993, Pub. L. No. 103-66, Title VI, § 6001(a)(3), 107 Stat. 312 (approved August 10, 1993) ("Reconciliation Act"); see also H.R. Rep. No. 103-213, 103rd Cong., 1st Sess. (1993)1 ("Conference Report"). The 50 MHz being "immediately reallocated" through this proceeding is part of a larger reallocation from the Federal Government of 200 MHz, which must be completed by January 2004.

industry, health care facilities and the nation's communities.

4. API is interested in the reallocated spectrum due to three main factors. First, API is disturbed over the Commission's lack of response to API's request, made in other proceedings of this Commission, that an Emergency Response Allocation ("ERA") for use by the nation's petroleum, manufacturing, utility, chemical, forestry and railroad industries is vital and necessary to meet public safety concerns. Second, as a member of the Coalition of Private Users of Emerging Multimedia Technologies ("COPE"), API supports the need for the development of an "Advanced Private Land Mobile Communications Service" with a spectrum allocation of 75 MHz from spectrum below 3 GHz. The requested spectrum allocation would be used to meet the Commission's economic and technology development goals by greatly assisting in the development, use, and eventual mass marketing of devices such as advanced wireless imaging and decision processing/remote file access systems. Finally, oil and gas industry licensees continue to seek alternatives for establishing vital fixed communications systems to replace the 1.8 GHz systems lost in the spectrum reallocation made for the Personal Communications Services

("PCS").3/ While accommodations were made for replacement spectrum in the Commission's Docket No. 92-9 proceeding, none offer the favorable propagation characteristics available in the 2 GHz range.

II. COMMENTS

A. The Critical Need for an Emergency Response Allocation Cannot Be Met With the 50 MHz Transfer Because of its Technical Incompatibility

5. API has been concerned for several years about the need for an Emergency Response Allocation. In 1990, API warned the Commission that lessons learned from the 1989 Alaskan oil spill were: (1) any response to a major disaster requires adequate communications capability; and (2) additional frequency assignments are needed for oil and chemical spill/disaster response communications.4/

3/ In the Matter of Amendment of the Commission's Rules to Establish New Personal Communications Services, FCC Gen. Docket No. 90-314.

4/ In the Matter of Amendment of the Commission's Rules to Establish New Personal Communications Services, Notice of Inquiry, (Gen. Docket No. 90-314, FCC 90-232), Comments of API at p. 38-52 (filed: October 1, 1990). See also, In the Matter of Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them, Notice of Proposed Rule Making, (P.R. Docket No. 92-235), Comments of API at p. 18 (filed: May 28, 1993).

6. At a minimum, the ERA needed to realistically respond to emergency situations would have to sufficiently support a system with the following parameters: 20 paired channels, trunked, mobile, with approximately 25 watt repeaters. Hazardous material spill/disaster response communications systems need the flexibility to swiftly handle massive amounts of traffic. The situs for a disaster cannot be predicted. Waterway disasters can occur anywhere, from the Houston Ship Channel to New York Harbor, to the coast of Alaska. Land borne disasters also do not discriminate as to location. For example, incidents have occurred where: (1) miles of pipeline spontaneously exploded; (2) large petroleum tank farms became enveloped in flame; and (3) railroad tank cars containing hazardous chemical materials derailed causing the evacuation of entire communities.

7. In the case of oil or chemical spills, it is vital to the success of the cleanup operation that response crews have early access to trunked channels, especially if the spill occurs in an ocean, lake or other waterway. The necessity to utilize a number of working crews, both on shore and aboard marine vessels, and to coordinate these activities from the air, requires that several mobile communications systems be employed in a single containment

and cleanup project, and that most channels be trunked for maximum efficiency.

8. The allocation of channel pairs will enable the use of repeaters to extend mobile and portable coverage over wider areas than would otherwise be possible. Therefore, an allocation of at least 20 trunked channel pairs for oil spill/disaster response is necessary in order for disaster response crews to adequately perform their emergency response functions.

9. The need for an ERA is indisputable. Should an oil or chemical spill -- that is even a fraction of the magnitude of the 1989 Alaskan spill -- occur tomorrow in the lower 48 states near an urban area, there would be no credible cleanup communications systems. The frequency assignments presently designated for use in conjunction with the containment and cleanup of oil spills are incapable of providing sufficient support to respond to a major spill. The FCC allocated, at the conclusion of its Docket No. 20027 proceeding in 1975, ten channels in three bands. Eight frequencies: 25.04, 25.08, 150.980, 154.585, 158.445, 159.480, 454.000 and 459.000 MHz may be authorized for primary use in oil spill containment and cleanup operations

and secondarily in land mobile communications.5/ Two other frequencies, 36.25 and 41.71 MHz may be authorized to Government and non-government stations in the Petroleum Radio Service for oil spill containment and cleanup operations only in inland and coastal waterway regions.6/

10. Because the current allocation is spread across three bands, equipment incompatibility proved to be a major problem during the 1989 Alaskan oil spill. Radio equipment that first appears at a disaster site may not be capable of utilizing all available frequencies. Moreover, the frequency assignments cannot accommodate trunking technology. These are critical flaws because no single band contains channels sufficient in number to adequately support the containment and cleanup of even a mid-sized spill, thus delaying reaction and allowing the spill to unnecessarily spread.7/

5/ 47 C.F.R. § 2.106, nn.NG112.

6/ 47 C.F.R. § 2.106, nn.US220.

7/ API also notes that land based hazardous material spills which are not properly contained can result in significant soil pollution and the destruction of underlying aquifers. Additionally, when such spills require civilian evacuations, cellular and other land mobile radio systems often become congested with traffic generated by the local population.

11. Unfortunately, the 50 MHz of spectrum being reallocated8/ from the Federal Government at this time is in bands that are incompatible with the emergency response communications equipment currently available. Equipment currently available for operations in the 2.4 GHz and 4.6 GHz bands can only accommodate fixed communications. Thus, an ERA in these bands would be impractical and economically unworkable. The very nature of emergency response communications is the need for mobile communications on land as well as aboard aircraft and marine vessels. Existing equipment that meets these demands all operate in the bands below 1 GHz. Accordingly, the spectrum under consideration in this matter is wholly inadequate.

12. Private users who would be able to avail themselves of the ERA would include the nation's petroleum, manufacturing, utility, chemical, forestry and railroad industries. An ERA could be shared with other users, including the Federal Government. During non-emergency periods, which would be the overwhelming majority of time, the other users could employ the allocation. Only during

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8/ The 50 MHz of spectrum being reallocated is at the following bands: 2390-2400 MHz, 2402-2417 MHz, and 4660-4685 MHz. NOI at ¶4.

emergencies, and scheduled periodic testing, would the band revert to primary emergency response use.

13. Oil spills the size of the 1989 Alaskan spill were not contemplated when the 10 channels were allocated at the conclusion of Docket No. 20027. However, in 1994, the reality is that such spills can, and do, occur. The current allocations leave the nation vulnerable and response teams woefully underprepared in the event that such a spill occurs again. It has been approximately four years since API first made a formal request for an ERA, and every day that passes without a proper ERA is a day that the nation exists with a significant, unnecessary risk. Moreover, the FCC's own goals would be thwarted by the adverse economic (not to mention environmental) impact of a poor response to a major oil spill or other emergency event in the lower 48 states.9/

9/ NOI at ¶¶ 1,4, and 9. The FCC's goals for the 50 MHz reallocation include strong emphasis on consideration for the nation's economic health. Obviously, such consideration should include the fact that major industrial, utility, transportation, chemical, forestry and petroleum mishaps can have vast economic repercussions. For example, failure to timely contain an oil or chemical spill can result in millions, if not billions, of dollars in preventable damages. Accordingly, it would not be prudent to turn a blind eye toward the compounded economic value of the "preventative maintenance" offered by an ERA.

B. Some Applications Highlighted in the COPE Petition Could Be Accommodated by the 50 MHz of Spectrum

14. The COPE petition directly addresses and meets the Commission's goals regarding increased public access to communications systems; the development, production and implementation of new and enhanced equipment and services; and stimulation of the nation's economy.10/ A few of the applications described in the COPE petition could be met by the proper allocation of the 50 MHz being transferred from the Federal Government for immediate use by the private sector.11/ While the COPE petition indicated that allocation of a minimum of 75 MHz of spectrum from below 3 GHz is necessary to develop the cutting edge products and services needed to establish a Private Land Mobile Advanced Communications Service, it is not necessary that the 75 MHz

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10/ See In the Matter of Amendment of Parts 2 and 90 of the Commission's Rules to Allocate Spectrum to Accommodate Advanced Private Land Mobile Communication Services, Petition for Rulemaking, filed December 23, 1993 by the Coalition of Private Users of Emerging Multimedia Technologies.

11/ Applications for emerging technology spectrum could include: (1) low power, wireless alarm mechanisms for high pressure pipelines and tanks, (2) high resolution graphics and electronic transfer of maps and other information to mobile users for pollution control, (3) geophysical mapping and analysis where difficult terrain and thermal conditions thwart the use of traditional research and communications equipment, and (4) temporary wireless Local Area Networks ("LANs") for refineries, factories and other "campus" type settings.

allocation be contiguous spectrum. Thus, some of the 75 MHz requirement could be met by an allocation from the 50 MHz of spectrum being reviewed in this proceeding.

(1) The Commission Is Not Required to Offer Spectrum to Private Users of Non-Commercial Services Through Competitive Bidding

15. Should the Commission decide to allocate spectrum to private users in accordance with the spirit of the COPE petition, it should be noted that the Commission is not obligated to offer that spectrum through competitive bidding. Under the Omnibus Budget Reconciliation Act of 1993, no mandates exist which force the Commission to utilize competitive bidding to offer the reallocated spectrum to private users of non-commercial services.12/

16. Moreover, the Reconciliation Act requires the Commission to implement an allocation and assignment plan which accounts for "the safety of life and property in accordance with the policies of section 1 of the 1934 Act

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12/ The Reconciliation Act only notes that competitive bidding may apply if the Commission determines that "the principal use of such spectrum will involve, or is reasonably likely to involve, the licensee receiving compensation from subscribers . . . ." Reconciliation Act, Title VI, Section 6002 [Section 309(j)(2)]. The private users listed in the COPE Petition for Rule Making will not use the spectrum to provide commercial services.

(47 U.S.C. § 151)."13/ Therefore, the safety and reliability concerns that are so prevalent among private users must be taken into account. Accordingly, the reports from private users, summarized in the COPE petition, which reveal a strong need for private users to upgrade their communications systems to accommodate emerging technology applications, should be given serious consideration.

17. Finally, the Reconciliation Act notes that "the Commission may not base a finding of public interest, convenience, and necessity solely or predominately on the expectation of Federal revenues from the use of a system of competitive bidding under this section."14/ Accordingly, the Commission is directed to not heavily weigh financial considerations and the prospect of acquiring revenue from spectrum auctions, when making the spectrum allocations.

(2) Commercial PCS Systems Cannot Meet Critical Private User Needs for Emerging Technology Communications

18. As noted in the COPE petition, the FCC's spectrum allocation for consumer-oriented PCS systems is not suited,

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13/ Reconciliation Act, Title VI, Part B, Section 115(b)(1)(C).

14/ Reconciliation Act, Title VI, Section 6002 [Section 309(j)(2)].

from a regulatory or technical perspective, for the specialized and highly sophisticated services needed by private users to introduce and implement emerging technologies. First, the regulatory scheme adopted for PCS makes it impractical, if not impossible, for private users to acquire and make constructive use of the new telecommunications technologies they need. Worse, PCS carrier licensees will not construct systems that meet the specialized reliability and infrastructure needs of most private emerging technology users.15/ The strictly defined geographic boundaries for PCS licenses, covering either a Basic Trading Area ("BTA") or Major Trading Area ("MTA"), have no relationship to the areas that private users need to serve, especially the narrowly constructed, but extremely long communications paths required to serve right-of-way users, such as oil and gas pipelines. Overall, private users typically serve site-specific applications (e.g., refineries and factories), designated regions (e.g., utilities) or specific jurisdictions (e.g., public safety agencies) for which BTAs or MTAs are oversized, undersized, or wholly unsuited to serve.

15/ COPE Petition at 16-20.

19. Second, despite the likelihood that PCS providers will offer a broad array of voice and data communications services, they will fail to meet the vital needs of private users who perform a series of widely varied and essential functions. Private users serve society in many ways, including energy production, transmission, and distribution; law enforcement; rail transportation; food processing; water treatment and delivery; and fire prevention services. The unique needs of private users for unrestricted priority access, security, unusually shaped geographic coverage areas, and ultra-high reliability will not be met by conventional PCS.16/

20. Moreover, technical constraints on PCS may prevent or restrict the ability to offer full motion video and high

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16/ Private users in the railway, petroleum, electric utility and other industries routinely require "near perfect reliability, in the range of 99.995 percent or greater." This reliability standard equates to system outages of an average of 26 minutes per year. COPE petition at 20 n.17. Also, these reliability standards are were not produced by whim. For example, Department of Transportation ("DOT") regulations require each operator of a hazardous liquid pipeline to establish communications systems designed to carry operational information and data necessary to promote safe pipeline operations. Under DOT regulation, these communications systems must be capable of reliably transmitting monitoring data, emergency messages, voice communications between control centers and critical points along the pipeline, and communications to and from emergency rescue personnel. See Part 195 of the DOT Regulations governing "Transportation of Hazardous Liquids by Pipeline," 49 C.F.R. Part 195. See also, 49 C.F.R. Parts 192-193.

definition imaging services. Alternatively, private users possess the flexibility, motivation and knowledge necessary to create cutting-edge emerging technology systems which meet their specific and critical communications needs and thus allow them to service the public more effectively.

(3) An Allocation of the 2390-2400 MHz and Perhaps the 2402-2417 MHz Bands to COPE Would Benefit the Nation's Economy and Meet the FCC's Goals

21. The economic benefits to the nation's economy from the efficient, certain and safe provision of petroleum, water, electric power, railway, safety, and other essential services are obvious and uncontestable. Likewise, damage to the economy caused by the disruption or inefficient supply of these essential services can, in instances concerning such disasters as hurricanes and earthquakes, cost billions of dollars a day.

22. A compelling need exists to upgrade private users' communications systems and to rapidly allocate spectrum for private emerging technologies.17/ There is a growing need

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17/ See API Petition for Reconsideration filed December 8, 1993, in the FCC's Second Report and Order in Gen. Docket No. 90-314. See also, Association of Public-Safety Communications Officials-International, Inc. ("APCO") Petition for Reconsideration at p. 3; and Utilities

(continued...)

for mobile data communications systems capable of transmitting schematic diagrams; pipeline flow and maintenance orders; high speed, high resolution fingerprints and mug shots; and building plans and hazardous material information required by fire fighters.

23. API's concern is not only with the need for an ERA, but with the ability to maintain strict everyday operating standards in a society that is becoming more complex. The ability to confidently and reliably manage nationwide, around-the-clock operation of pressurized pipelines and petroleum refineries is a matter of common sense. If private users cannot avail themselves of needed new technologies, the unpleasant fact is that the chance for catastrophic accident increases. Therefore, API urges the FCC to begin the allocation process described in the COPE petition by allocating the 2390-2400 MHz band to private users. API also encourages discussion as to any emerging technology opportunities that may exist for the band 2402-2417 MHz.18/

17/(...continued)
Telecommunications Council ("UTC") Petition for Reconsideration at p. 3.

18/ API does caution that the existing use of Part 15 spread spectrum devices in the band 2400-2483.5 MHz should not be disrupted by any allocations in the 2390-2400 MHz and
(continued...)

C. The 4660-4685 MHz Band Should Be Allocated for Primary Fixed Use

24. API member companies remain profoundly concerned about the loss of fixed allocations at 1.8 GHz and 2.1 GHz in the PCS proceeding.19/ The primary focus of this concern is that the diminution of API member companies' telecommunications capabilities adversely impacts the safe and efficient production and delivery of the nations' vital energy sources. Requirements for operational-fixed systems still exist.

25. The lightly loaded 4660-4685 MHz band does not contain the positive propagation characteristics which exist at 1.8 GHz and 2.1 GHz. Yet, a step toward refortifying essential fixed services needs to be made. This first step toward refortification could be accomplished by allocating the 4660-4685 MHz band for primary fixed use by entities displaced from the bands 1.8 GHz and 2.1 GHz.

18/(...continued)
2402-2417 MHz bands. These devices often provide critical links, and their reliability and ease of use provide a valued service that should not be disturbed.

19/ API has participated in nearly every phase of the General Docket No. 90-314 PCS proceeding and its concerns are well documented.

III. CONCLUSION

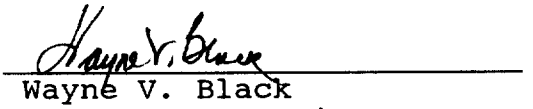
26. It is no secret that the 50 MHz of spectrum offered by NTIA to the FCC could not be characterized as "prime". Still, private users' extensive requirements, as described in the COPE petition, could possibly begin to be met by allocating primary use of the bands 2390-2400 MHz and 2402-2417 MHz for emerging technologies. Additionally, the process for addressing the concerns of displaced 1.8 GHz microwave licensees could be initiated through the allocation of the band 4660-4685 MHz for their primary use.

27. Unfortunately, an Emergency Response Allocation for primary use by private industry cannot be accommodated by the bands offered. The plain fact is that no equipment exists to provide the required mobile service functions in these bands. Regardless, the need for a prompt Emergency Response Allocation is absolute. API urges the FCC to explore with the National Telecommunication and Information Agency the allocation of 20 paired channels for shared trunked, mobile use by private industry in the event of an emergency. When the system is not being utilized for emergency response communications, it could be shared with other users, including the Federal Government.

WHEREFORE, THE PREMISES CONSIDERED, the American Petroleum Institute respectfully submits the foregoing Comments and requests that the Federal Communications Commission take action in a manner consistent with the views expressed herein.

Respectfully submitted,

AMERICAN PETROLEUM INSTITUTE

By: 

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